

**UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY**

**Re: Considerations for Transmission
Congestion Study and Designation of
National Interest Electric Transmission
Corridors**

**REQUEST OF PJM INTERCONNECTION, L.L.C.
FOR EARLY DESIGNATION OF
NATIONAL INTEREST ELECTRIC TRANSMISSION CORRIDORS**

March 6, 2006

In response to the Department of Energy's Notice of Inquiry ("NOI")¹ regarding its upcoming Congestion Study and its role in designating National Interest Electric Transmission Corridors ("NIETC"), PJM Interconnection, L.L.C. ("PJM"), submits this request for designation of two NIETC within the PJM region. Designation as NIETC of these two corridors, which PJM calls the "Allegheny Mountain path" and the "Delaware River path," will facilitate bringing more reliable and fuel diverse electric service and more efficient electricity markets to millions of consumers in the eastern United States.² Both of these areas were identified as transmission bottlenecks with risks of significant costs to consumers in the Department's 2003 "Transmission Bottleneck Project Report."³

¹ *Considerations for Transmission Congestion Study and Designation of National Interest Electric Transmission Corridors*, Notice of Inquiry, 71 Fed. Reg. 5660 (Feb. 2, 2006) ("NOI").

² PJM generally supports the criteria the Department proposed in the NOI to apply to potential NIETC. PJM concurs with and relies upon the comments on the criteria that the ISO/RTO Council ("IRC") is submitting separately to the Department. In particular, PJM supports the IRC's definition of "transmission corridor" based on existing and potential transmission paths between load centers and generation resources that can be used to serve them. PJM is not seeking, nor would it be appropriate for the Department to designate, particular lines or geographic routes to meet the needs identified in this Request. These issues are best left to the state siting processes and, if necessary, the "backstop" authority of the FERC pursuant to section 1221(b) of the Energy Policy Act of 2005.

³ See Consortium for Electric Reliability Technology Solutions, *U.S. Department of Energy Transmission Bottleneck Project Report* (Mar. 19, 2003) at 64-69, 95 available at http://www.electricity.doe.gov/documents/current_transmission_bottlenecks_report.pdf.

PJM's regional transmission planning process has confirmed repeated violations of NERC reliability criteria associated with moving power from the west through these paths to the major metropolitan load centers they serve. Likewise, customers demand for lower cost supplies has been stymied by the ever-increasing congestion on the existing transmission lines on these two corridors.

Expansion of transmission capability on the Allegheny Mountain path can provide relief from persistent and well-documented transmission congestion that has totaled more than \$1.3 billion over the past three years. Expansion of transmission capacity will also immediately enhance the reliability of service to critical loads in the Washington, D.C. and Baltimore metropolitan areas, which face numerous violations of reliability standards over the next 15 years. Transmission expansion on the Delaware River path likewise will alleviate numerous violations of reliability criteria, principally on the bulk transmission lines that supply densely populated areas of New Jersey and, which, with necessary additional local upgrades, provide the future potential to address transmission constraints affecting New York City and Long Island. PJM's planning analyses have identified these violations of reliability criteria in every year from 2005 through 2010. As PJM expands its planning horizon to fifteen years, PJM expects these reliability violations to worsen steadily. These violations are the result of continuing steady growth in demand, retirements of local generating plants, little construction of new generating facilities, and aging transmission and generation infrastructure. None of these trends shows any sign of abating, promising that violations of reliability criteria will recur for the foreseeable future. While PJM's regional transmission expansion planning process, to date, has been successful in mitigating these violations through numerous short-term upgrades to lower voltage facilities, such upgrades have become progressively more difficult to identify and to implement in a timely fashion. Enhancements to the Allegheny Mountain and Delaware River paths also would ensure their capability of meeting growing demand for a conduit for bulk transfers of power from predominantly coal-fired generation in western PJM to the eastern U.S. load centers in PJM, as well as the New York City metropolitan area and points north.

As more fully explained below, both of the corridors that PJM proposes meet the criteria for designation proposed by the Department in the NOI and both warrant such

designation as NIETC at the earliest possible date and no later than December 31, 2006. As Secretary Bodman reportedly noted in a speech on March 2, 2006, it can take 10-15 years of planning, regulatory review and construction to complete major new electric transmission facilities and “[w]hat that means . . . is that we must get started now, if these facilities are to be in place when we will need them.”⁴

In support of its proposed corridor designations, PJM submits this Request and the several appended documents, all of which are identified below and listed in the Index to Appendices at the end of this document. PJM stands ready to respond to questions and to provide further data and analysis, should the Department so request.

I. Introduction and Background

A. PJM and Its Role In the National Transmission Grid

PJM is a FERC-approved regional transmission organization (“RTO”) that independently and impartially coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia and the District of Columbia.⁵ Serving approximately 51 million people, PJM encompasses major U.S. load centers from Illinois’ western border to the Atlantic coast, including the metropolitan areas in and around Baltimore, Chicago, Columbus, Dayton, Newark and northern New Jersey, Norfolk, Philadelphia, Pittsburgh, Richmond and Washington D.C. The company dispatches more than 164,000 megawatts of generation capacity over more than 56,000 miles of transmission lines – a system that serves nearly 20 percent of the U.S. economy.

PJM operates the world’s largest competitive wholesale electricity market and ensures the reliability of the largest centrally dispatched electric service territory in North America. Using advanced information technology, PJM provides a wide array of information, much of it in real-time, to market participants to support their daily

⁴ *Electric Power Daily*, “US Energy Chief says Transmission Grid Expansion Must Begin Now” (Mar. 3, 2006) *available at* <http://www.platts.com/Electric%20Power/News/7307390.xml?S=n>.

⁵ *See PJM Interconnection, L.L.C.*, 101 FERC ¶ 61,345 (2002).

transactions and business decision-making. The company has administered more than \$28 billion in energy and energy-service trades since its regional markets opened in 1997.

PJM also manages a sophisticated Regional Transmission Expansion Planning (“RTEP”) process to ensure the continued reliability of the electric system and to enhance the efficiency of the wholesale electricity markets under its supervision. Since its inception in 1999 through completion of the most recent plan in December 2005, the RTEP has identified more than \$1.8 billion of transmission expansion projects throughout the PJM region.

PJM has more than 400 market participants. Its members/customers include power generators, transmission owners, electricity distributors, power marketers and large consumers. State regulatory commissions and consumer advocates are actively involved in PJM’s governance and administration of its RTO responsibilities.

B. Summary of PJM’s Positions and Proposals

Section 1221 of the Energy Policy Act adds a new section 216 to the Federal Power Act.⁶ The new provision requires, *inter alia*, the Secretary of Energy (1) to prepare a study, initially within one year after enactment of the statute and then not less than every three years thereafter, on electric transmission congestion, and (2) to “issue a report, based on the study, which may designate any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers as a national interest electric transmission corridor.” Pub. L. No. 109-58, § 1221(a)(2), 119 Stat. 594.

In the NOI issued on February 2, 2006, the Department invites comment on, among other items, how it should define an “electric transmission corridor” and what criteria it should use in evaluating the suitability of particular geographic areas for NIETC status. PJM has joined in and supports the comments of the IRC on these matters. Of particular import to the instant Request, PJM concurs with the IRC that the

⁶ Federal Power Act, as amended, 16 U.S.C. §§ 791a, *et seq.*

Department should define transmission corridors in terms of transmission paths between generation sources and load centers that rely on those sources.⁷

It is in this context that PJM responds to the NOI's invitation to interested parties to identify any "geographic areas or transmission corridors for which there is a particularly acute need for early designation as NIETC." NOI, 71 Fed. Reg. at 5661. PJM's regional planning analyses and markets reveal that there is such an acute need in two areas of the PJM transmission system.⁸ Those areas are:

- 1) Allegheny Mountain path. The Allegheny Mountain path is the high-voltage, bulk power transmission pathway that serves load centers in the metropolitan areas of Washington, D.C., and Baltimore from generation resources located west of the Allegheny Mountains in western Pennsylvania, West Virginia and the Ohio and Kanawha River valleys and points west. This path is highly constrained as a result of insufficient capacity to meet all demand for transfers of power from western generation, demand that has grown and continues to grow substantially as population and electricity demand steadily increase, while local generation capacity continues to age and retire and is not fully or timely replaced.⁹ The principal areas served by the Allegheny Mountain path, the Washington, D.C., and Baltimore metropolitan areas, are classic load pockets where the ability to develop new generating resources is

⁷ Were the Department to adopt a narrower definition of transmission corridor, it would essentially become a siting agency. However, in EPAct 2005, Congress reaffirmed the role of states in siting new transmission facilities and provided FERC only "backstop" authority regarding siting within NIETC. Accordingly, the Department should resist efforts to become yet a third siting agency, leaving those determinations to others in keeping with Congressional intent.

⁸ These areas are identified in the map attached in Appendix 1. The dashed lines on the map represent historically constrained transmission interfaces. The corridors that PJM proposes are designed to facilitate transmission of power from western generating facilities across the interfaces to eastern load centers.

⁹ The Department is familiar with the limitations on service to the nation's capital from its recent proceeding and order involving the Potomac River generating plant in Alexandria, Virginia. See *D.C. Pub. Serv. Comm.*, DOE Order No. 202-05-3 (Dec. 20, 2005) ("*Mirant Potomac River Order*"). Increased transmission capability on the Allegheny Mountain path, along with local improvements to provide additional transmission capability into the Potomac River substation, is critical to ensuring reliable supplies to the Washington-Baltimore metropolitan area.

extremely constrained by geography, limited fuel choices and ever-tighter air emissions and other environmental restrictions.

- 2) Delaware River path. The Delaware River path is the high-voltage, bulk power transmission pathway that serves load centers in the mid-Atlantic area of PJM, including the metropolitan areas of Philadelphia, Wilmington, Newark and northern New Jersey, and provides a conduit for electricity exports to load centers in New York City and surrounding areas, as well as points north,¹⁰ from generation resources located west of the Allegheny Mountains in western Pennsylvania, West Virginia and the Ohio and Kanawha River valleys and points west. This path is currently constrained as a result of insufficient local generation to keep pace with ever-increasing local and export demands and inability to develop new generation to replace an aging generation fleet, substantial portions of which recently have retired on short notice and much more of which is likely to be retired during the next five to ten years. The principal areas served by the Delaware River path, New Jersey and the Delmarva Peninsula, are classic load pockets where the ability to develop new generating resources is extremely constrained by geography, limited fuel choices and ever-tighter air emissions and other environmental restrictions.

PJM urges the Department to grant PJM's request for designation of the Allegheny Mountain path and the Delaware River path as NIETC by August 2006. For the reasons PJM explains in detail below, PJM's regional planning studies, as well as the operation of the market itself, demonstrate that the need for these designations is clear and immediate. Deferring action on these transmission corridors would unnecessarily and unwisely exacerbate the reliability problems and economic factors that warrant prompt action. Further, delay would create new uncertainty in the marketplace that would stymie recent, promising efforts to develop the new infrastructure. Timely designation that these paths rise to the national interest is undeniably needed to continue reliable, economical electric service to the tens of millions of Americans who live and work in the load centers served by the Allegheny Mountain and Delaware River transmission paths.

¹⁰ The feasibility and extent of such exports will depend upon the upgrading of existing facilities or construction of new facilities in New York or other importing areas.

II. There is An Immediate Need for NIETC Designation of the Allegheny Mountain and Delaware River Paths.

As noted, PJM has joined in and supports the comments of the IRC on the Department's NOI. In particular, PJM agrees with the IRC's proposed definition of transmission corridors in terms of transmission paths between generation sources and load centers that rely on them for either economic or reliability reasons. Accordingly, PJM's proposed NIETCs are based on the IRC's definition of "transmission corridor:"

An "transmission corridor" consists of all transmission paths and potential transmission paths that provide power transfer capability between a defined area of load and the generating resources that may be delivered across the transmission system to serve all or a portion of that load.¹¹

PJM supports this definition because the IRC's "path-based" approach best reconciles the role that Congress contemplated for the Department under section 1221. This definition means the Department will identify areas where there is a need for additional transmission capability, but ensures that defining, developing and siting specific projects to meet those needs do not become part of the NIETC designation process. This is appropriate because the statute clearly reflects Congress' intent for the Department to consider potential corridor designations on a "big-picture" basis – not that it become a federal transmission planning or siting agency.

Thus, while Congress through section 1221(a) directed the Department to designate NIETC, in section 1221(b) it allotted to FERC the task of permitting construction of specific transmission projects within designated NIETC, but only as a "backstop" in the event that state authorities lack the power to permit the project or to consider its interstate benefits or, under certain circumstances, if a state fails to authorize the project or approves it with burdensome economic conditions, within one year from the date of an application for such authority. Moreover, Congress expressed its intent that the Department not override or usurp existing regional transmission planning programs in section 1221(h)(9)(C), where it directed the Secretary of Energy to "consult regularly"

¹¹ This definition is found and explained more fully in the comments the ISO/RTO Council is filing pursuant to the DOE's NOI. *See* Comments of the ISO/RTO Council on DOE/OE Notice of Inquiry, at 3 (Mar. 6, 2006).

with, among other entities, “Transmission Organizations approved by the Commission,” including RTOs and independent system operators (“ISOs”).¹²

A. PJM’s Proposed NIETCs

PJM’s regional transmission planning program indicates an acute need for additional transmission investment to facilitate west-to-east wholesale power transfers within the PJM region to ensure reliable service and to provide lower-cost power to eastern markets.¹³ Accordingly, PJM here proposes two transmission paths for early designation as NIETC:

- 1) Allegheny Mountain path. The Allegheny Mountain path is the high-voltage, bulk power transmission pathway that serves load centers in the metropolitan areas of Washington, D.C., and Baltimore from generation resources located west of the Allegheny Mountains in western Pennsylvania, West Virginia and the Ohio and Kanawha River valleys and points west. This path includes these and other load centers served from the 500 kV transmission lines and associated facilities that today extend generally from the vicinity of the Wylie Ridge and Kammer substations near the Ohio River, extending south and southeastward through Pennsylvania, West Virginia, Virginia and Maryland to the Washington-Baltimore area. These load centers are served from high voltage transmission facilities include, among others, the following 500 kV transmission line segments:

- Keystone - Juniata 500 kV line
- Conemaugh - Juniata 500 kV line
- Conemaugh - Hunterstown 500 kV line
- Hatfield - Black Oak 500 kV line
- Pruntytown - Mount Storm 500 kV line

¹² Section 1291(b)(29) defines “Transmission Organization” as “a Regional Transmission Organization, Independent System Operator, independent transmission provider, or other transmission organization finally approved by the [FERC] for the operation of transmission facilities.”

¹³ States throughout the region maintain the ability to retain the lowest cost supplies to serve their retail native load customers pursuant to the particular directives of each state’s legislature. PJM’s markets are voluntary, not mandatory, and provide additional options for wholesale customers, as well as needed price transparency, throughout the 13-state footprint and in the District of Columbia.

- 2) Delaware River path. The Delaware River path is the high-voltage, bulk power transmission pathway that serves load centers in the mid-Atlantic area of PJM, including the metropolitan areas of Philadelphia, Wilmington, Newark and northern New Jersey, and provides a conduit for electricity exports to load centers in New York City and surrounding areas, as well as points north,¹⁴ from generation resources located west of the Allegheny Mountains in western Pennsylvania, West Virginia and the Ohio and Kanawha River valleys and points west. This path currently includes these and other load centers served by the 500 kV transmission lines and associated facilities extending generally from the vicinity of the Wylie Ridge substation near the Ohio River, extending eastward through Pennsylvania to the Philadelphia area and across the Delaware River into and through New Jersey and southward to Wilmington and through the Delmarva Peninsula. The load in these areas are served from facilities include, among others, the following 500 kV transmission line segments:

- Wescosville - Albury 500 kV line
- Juniata - Albury 500 kV line
- Albury - Branchburg 500 kV line
- Elroy - Branchburg 500 kV line
- TMI - Hosensack 500 kV line
- Peach Bottom - Limerick 500 kV line
- Rock Springs - Keeney 500 kV line

The facilities identified above are illustrated on the map attached as Appendix 1.

PJM principally bases its proposed designation of these paths as NIETC upon recent years' activity and experience in its markets and its analyses pursuant to its RTEP process, a comprehensive regional transmission expansion planning protocol.¹⁵ PJM's RTEP process identifies transmission system upgrades and enhancements to provide for

¹⁴ The feasibility and extent of such exports generally depends upon upgrades to facilities in New York or other importing areas.

¹⁵ The RTEP protocol is formally designated as Schedule 6 of the Amended and Restated Operating Agreement of PJM Interconnection, L.L.C. FERC has approved and accepted the Operating Agreement, including Schedule 6, as PJM's Third Revised Rate Schedule FERC No. 24 *available at* <http://www.pjm.com/documents/downloads/agreements/oa.pdf> (last visited Mar. 6, 2006).

the operational, economic and reliability requirements of PJM customers. A region-wide planning effort, the RTEP determines the best way to integrate transmission, generation and load response to meet load-serving obligations. PJM currently applies planning and reliability criteria over a fifteen-year horizon to identify transmission constraints and other reliability concerns. Transmission upgrades and other projects that can mitigate identified issues are then examined for their feasibility, impact and costs, culminating in one plan for the entire PJM footprint. PJM discusses in more detail later in this submission the scope of the RTEP analysis and why it provides a solid foundation for the Department's decision regarding designation of the proposed Allegheny Mountain and Delaware River NIETCs.

Both the validity and the immediacy of the need for designation of these proposed corridors are underscored by the recent emergence of two major proposals, one a 550-mile, 765 kV system proposed by American Electric Power, the other a 330-mile, 500 kV system proposed by Allegheny Power, to construct new, high-voltage transmission lines in these areas. Both of these projects would be located entirely in the Allegheny Mountain and/or the Delaware River transmission paths for which PJM seeks NIETC designation. The Department should place particular emphasis in its evaluation of corridor designation on whether market participants are actually willing to commit capital toward specific solutions as opposed to more hypothetical requests. In this case, two companies, American Electric Power and Allegheny Power, have both put forward specific proposals to construct transmission lines in these proposed corridors. Although PJM is expressly not seeking review of these or any other particular projects in this request, the fact that commitments have been announced should weigh in the Department's analysis concerning the need and timing of designation.

B. The Need For Designation Of These NIETCs Is Acute.

PJM's RTEP studies highlight in several respects the severity and immediacy of the need for NIETC designation for both of the transmission paths that PJM advocates. Designation of the Allegheny Mountain path is warranted due to persistent, costly congestion on the existing 500 kV facilities in the corridor, as well as by a growing need for transmission improvements to maintain reliability of service for the Washington and Baltimore metropolitan areas. Both features are rooted in well-established electrical flows

that reflect steadily increasing reliance in eastern PJM on generation resources located well to the west, combined with installation of little new generation and steady load growth in the east. The potential shutdown of the Potomac River generating station near Washington also contributes to the need for this corridor designation. Designation of the Delaware River path is driven by reliability issues presented by retirements of eastern generating units without development of sufficient replacement generating capacity, while the region's load continues to grow both locally and via new exports of power to New York City and surrounding areas through merchant transmission facilities.

The electricity needs of the Washington-Baltimore area and Eastern PJM (Philadelphia-Wilmington, New Jersey and the Delmarva Peninsula) are supplied not only by local generation, but also by significant energy transfers into those areas. A significant portion of these transfers flow through the interstate 500 kV, 345 kV and 230 kV transmission systems of northern West Virginia, northern Virginia, Maryland, eastern Ohio and central-southwestern Pennsylvania. The dependence of eastern PJM areas on west-to-east transfers has been growing steadily since approximately 2002, after Allegheny Power integrated into PJM. The growth in such transfers is illustrated on Appendix 2.

Imbalances between local supply and demand -- the result of load growth, lagging generation additions and generation deactivations -- require progressively more complex and expensive transmission upgrades. PJM's RTEP studies show that trends in load growth and in locating new generating facilities will impose increasingly heavy levels of west to east power flows across PJM's interstate transmission system. More than 9400 MW of new generation of which approximately 6700 MW are coal-fired units located in western Pennsylvania, western Maryland, eastern Kentucky, Ohio and West Virginia are pending in PJM's interconnection queues with commercial operation dates of 2006-2012. These new resources are being constructed both to serve local load and to participate in PJM's broader energy market to the extent that transmission capability permits. Provided it can reach eastern markets, this energy will have the effect of displacing in PJM's merit order dispatch higher-cost generation that located east of Bedington in the Baltimore/Washington area and in Eastern PJM.

The story is not complete, however, without coupling this generation scenario with anticipated load growth. The weather-normalized summer peak in the PJM region is forecast to increase at an average rate of 1.7% per year over the next ten years – from 2005 to 2015. The expected growth rates in individual utilities’ geographic zones vary from 1.1% to 2.5%, as shown in Appendix 3 at 14, Table 2.1.1-1, but many of the highest projected rates of annual growth are in the eastern portions of PJM, for example: 2.1% annually for Atlantic City Electric (New Jersey), 2.5% annually for Delmarva Power & Light (Delmarva Peninsula), 2% annually for Potomac Electric Power (Washington). PJM’s RTEP studies show that in order to meet this load growth during the most recent planning horizon (through 2010), Baltimore-Washington and eastern PJM both must rely on the interstate, high-voltage transmission network to obtain needed energy from western sources. Designation of the Allegheny Mountain and Delaware River paths will jump start the development of the needed transmission capability that will enable the interstate transmission grid to supply the power these eastern areas require both to ensure reliable service to consumers and to obtain the most economical, available electricity supplies.

1. Allegheny Mountain Path to Washington-Baltimore Loads
 - a. Expansion of Bulk Transmission Capacity in the Allegheny Mountain Path Is Critical To Reliability of Service And Mitigation of Significant Transmission Congestion Costs for Washington and Baltimore.

The electric power system in the greater Baltimore-Washington area faces growing customer demand, sluggish generating resource additions and reliance on transmission system facilities to bridge the two. Baseline reliability analyses since 1999 have revealed the need to address the ability of the generation and transmission resources in those areas to continue to serve load reliably. PJM in recent years has identified a number of reliability violations in the area, primarily on 230 kV facilities. PJM’s experience teaches that after overloads on a region’s 230 kV facilities are remedied with upgrades, the effects of continuing load growth and generation retirements then begin to stress the capability of higher-voltage, backbone transmission facilities. In the 15-year regional transmission expansion plan that PJM will complete in May 2006, PJM expects

to find impending overloads on the 500 kV circuits in the Allegheny Mountain transmission path west of Washington and Baltimore.

PJM's planning studies thus have shown and will continue to demonstrate that reliable service to this region will depend to an ever-increasing degree upon transfers of power into the area through the high-voltage, backbone transmission facilities west and northwest of the Baltimore and Washington metropolitan areas, i.e., the existing facilities of the proposed Allegheny Mountain path NIETC. The weather normalized summer peak demand in the combined Potomac Electric Power-Baltimore Gas & Electric service areas is forecasted to grow at an average rate of 1.6% annually over the next ten years – from 13,459 MW in 2005 to 15,823 MW in 2015 – an increase of 2,364 MW over the forecast period. PJM's annual CETO/CETL analyses for this area have documented a steady decline in recent years of the ability of local generation to maintain load deliverability during peak times and increasingly frequent violations of load deliverability criteria in some local areas. Accordingly, there is little reason to expect local generation resources to be sufficient to serve Washington-Baltimore area's constantly growing demand for electricity.

Between 2003 and 2005, 585 MW of generation in the Baltimore-Washington were deactivated, the result of plant retirements, environmental restrictions on operations and other causes. The potential shut-down of Mirant's Potomac River generating plant near Washington accounts for 482 MW of this deactivated capacity. *See* Appendix 3 at 35, Map 3.2.1-1 for the location of the Potomac River plant.) The Potomac River plant currently remains available under certain circumstances due to an order of the Secretary of Energy under section 202 of the FPA.¹⁶ Nevertheless, the plant's shut-down in August 2005 immediately triggered needs for significant transmission upgrades, including the installation of two new 230 kV transmission circuits, and an increase in the size of a planned dynamic reactive device at the 500 kV Black Oak substation in Maryland.

The final status of the Mirant plant has not yet been established, pending the owner's decision on whether and to what extent to upgrade the plant to meet environmental standards. However, with no new generation planned in the Washington-

¹⁶ *See Mirant Potomac River Order, supra.*

Baltimore area and the length of time required to build transmission to help meet load requirements with remote generation, planning and implementation of additional transmission capability must begin now in order to ensure that it will be available when required. Recent planning studies found significant deliverability violations for Baltimore-Washington in 2008. These violations are to be resolved by incremental transmission upgrades, but those are only a temporary solution. Unless additional generation is sited in these areas, further load growth will require more costly, more extensive and more frequent transmission upgrades. Moreover, any additional unanticipated retirements of generation in the area could cause much more extensive load deliverability violations similar to those now occurring in New Jersey (*see* section II.B.2 below).¹⁷

Information from PJM's interconnection queues make it clear that additions of generating capacity in the Baltimore-Washington area will not keep pace with the effects of expected load growth and generation deactivations. Only 171 MW of generating capacity have been added in this area since 2000 and just 4.5 MW more are currently under construction. One other project, representing another 13.5 MW, remain active in PJM's interconnection queues. This additional generation is primarily the result of additions to existing generating plants that were planned. During its two most recent interconnection windows (designated Queue O and Queue P), PJM received just the one 13.5 MW interconnection request for new generation capability to be installed in the Washington-Baltimore area between 2005 and 2009.

¹⁷ While PJM has not been informed of any impending further local generation retirements, the District of Columbia Public Service Commission, in response to public inquiries, recently asked PJM to analyze the effects on local electric service reliability of shutting down Pepco's 550 MW Benning generation plant. Among other problems, including increased loading of several important and already heavily congested, 500 kV circuits and transformers west of Washington, PJM's study indicated that deactivation of this plant would eliminate the Washington-Baltimore area's entire remaining available transmission import capability in 2008. *See* "Reliability Evaluation For The Potential Retirement Of Benning Generation," *available at* <http://www.pjm.com/planning/project-queues/gen-retirements/20050610-reliability-benning-gen-retire2.pdf> (last visited Mar. 6, 2006).

Accordingly, providing reliable and economical electric service to customers in the Washington-Baltimore area both currently and for at least the next 15 years clearly depends on creating and maintaining sufficient bulk transmission capability to supply the area from the west. Immediate designation of the Allegheny Mountain transmission path as a NIETC will facilitate timely development of the facilities necessary to ensure that such service is maintained. PJM discusses in more detail below how the proposed Allegheny Mountain path meets each of the Department's proposed criteria for designation of NIETC.

b. Expansion of Bulk Transmission Capacity Will Relieve Burdensome Congestion in the Allegheny Mountain Path.

The facilities currently located in the Allegheny Mountain transmission path have experienced extensive congestion, particularly over the past three years, imposing significant costs on customers in and around Washington and Baltimore and throughout Eastern PJM. This experience highlights both the importance of power imports from western PJM to Washington-Baltimore and other eastern markets and the need to facilitate additional transmission capability on this path.

In 2005 alone, congestion on the principal facilities in the Allegheny Mountain path totaled approximately \$862 million, making the three-year total more than \$1.23 billion, as reflected in the following table:¹⁸

Congestion on the Allegheny Mountain Transmission Path			
2003-2005 (\$ million)	<u>2003</u>	<u>2004</u>	<u>2005</u>
Bedington-Black Oak Interface	\$102	\$320	\$534
Mt. Storm-Doubs	\$0	\$0	\$119
Kammer Transformer	\$10	\$8	\$82
AP South Interface	\$5	\$4	\$48
Pruntytown-Mt. Storm	\$0	\$0	\$46
Wylie Ridge Transformer	\$7	\$29	\$14
Ft. Martin-Pruntytown	\$0	\$0	\$14
Totals	\$124	\$361	\$862

¹⁸ All of the congestion cost and LMP differences presented in this Request are calculated from PJM's market records and are included in the attached Appendix 4. It should be noted that these congestion cost amounts are not fuel-cost adjusted and illustrate the high degree of sensitivity of congestion on this path to fuel cost volatility.

This level of congestion underscores the extent to which demand for transmission capability on this path exceeds the currently availability capacity, particularly during periods of peak demand.¹⁹ Another such indicator is the frequency and extent of higher locational marginal prices (LMPs) on the east side of the Allegheny Mountain path than on the west side of the path. On an annual basis, LMPs were, on average, approximately \$20.00 per MWh higher on the east side of the path in 2005 than on the west side. Over the past three years, this LMP difference has steadily increased, as shown in the following table:

Average LMP Differentials Across the Proposed Allegheny Mountain Transmission Path²⁰		
Year	Average LMP Differential (\$/MWh)	
	Day-ahead	Real-time
2003	4.76	9.00
2004	8.44	21.47
2005	21.47	20.10

The average 2005 LMP difference across the Allegheny Mountain path of \$20 per MWh represents a premium of approximately 44% over the average 2005 LMP on the west side of the path. Reducing the growth of the already extremely costly congestion on the Allegheny Mountain transmission path is an additional and compelling potential benefit

¹⁹ It should be noted that a substantial portion of this congestion was hedged through use of financial transmission rights. However, as load continues to grow, absent upgrading of the transmission system, the availability of these financial transmission rights diminishes.

²⁰ For purposes of calculating the LMP differences shown here, the Allegheny Mountain path is deemed to be a path from West Virginia to Baltimore-Washington.

for electricity consumers and thus an additional compelling reason for designating the path as a NIETC.

2. Delaware River Path to Eastern PJM Loads

- a. Reliable Service and High Transmission Congestion Costs In Eastern PJM, Particularly New Jersey, Require Immediate Designation Of the Delaware River Path.

A key finding of PJM's 1999 RTEP baseline analysis was that, by 2006, Eastern PJM (Philadelphia, New Jersey and the Delmarva Peninsula) would begin to experience reliability issues absent the addition of generation resources or transmission enhancements to meet growing consumer demand. Those reliability concerns were largely mitigated between 1999 and 2003 with the addition of new generating resources. Since 2003, however, continued load growth (including the impending start of large exports of power to New York City), retirement of generation resources, sluggish development of new generating facilities, and continued reliance on transmission to meet load deliverability requirements and to obtain access to more economical sources of power west of this area, are collectively and progressively degrading system reliability in Eastern PJM. This degradation is compounded by the stresses on the system of accommodating more than 1,600 MW of planned exports of power to New York City and surrounding areas, with about half of that amount slated to begin in 2007 with the completion of two new merchant transmission facilities. Present trends mean reliability criteria violations will continue to be identified in New Jersey and will spread to other areas of PJM where similar conditions exist.

PJM estimates that load in New Jersey will increase by 1,950 MW (9.8%) between 2005 and 2010, but generation additions will not keep pace. In 2003 and 2004, only 51 MW of new generation were constructed in New Jersey; only 1,340 MW are currently under construction.²¹ Similarly, load growth in the Delmarva Peninsula is projected to be 2.7 percent per year, or an increase of 573 MW, over the next five years,

²¹ A substantial number of projects have been proposed for New Jersey in the most recent PJM interconnection queues, but projects at this earliest state of development in PJM typically suffer the highest rates of attrition, and therefore are highly uncertain.

but planned generation additions are minimal. Only 60 MW were added on the peninsula in 2004 and only another 150 MW are being studied in PJM's interconnection process.

Longer-term forecasts indicate continuing, significant load growth in this area. The weather-normalized summer peak demand in Eastern PJM is expected to grow at an average rate of 1.8% annually over the next ten years – from 32,301 MW in 2005 to 38,574 MW in 2015 – an increase of 6,273 MW.

In addition, two merchant transmission developers have signed interconnection service agreements with PJM for projects with terminals in New Jersey and associated withdrawal rights that collectively will permit PJM market participants to export up to 1090 MW of power to New York and systems beyond from generation resources located in PJM and/or in areas to its west and south. Both of these projects, the Neptune Regional Transmission System D.C. cable and East Coast Power's variable frequency transformer, are now under construction and both anticipate commencing commercial operation in 2007. RTEP studies have demonstrated the need for significant transmission upgrades to accommodate the two facilities going into service in 2007, based on the need to have sufficient transmission in place to "deliver" sufficient power to their New Jersey terminals to accommodate their planned withdrawals/exports. PJM expects its ongoing studies of projects still in the interconnection queue to document the need for extensive, additional transmission facilities to facilitate those projects' planned bulk power exports to New York. For PJM's transmission planning purposes, all of these merchant facilities' firm withdrawal rights electrically represent a further increase in load in New Jersey.

Against this backdrop, the PJM region, particularly Eastern PJM, recently has experienced a dramatic spike in generation retirements. For the four years from 1999 through 2002, 274 MW of generation in the Mid-Atlantic region retired. In contrast, from January 1, 2003 through June 22, 2005, 1,709 megawatts of generation capacity retired, and an additional 1,694 MW are proposed for retirement in the Mid-Atlantic region from 2006 through 2008. Appendix 5 provides a listing of the generating units retired since January 2003 and those currently proposing retirement in the Mid-Atlantic region. Of the units identified in Appendix 5, 40% are located in New Jersey – representing actual and expected retirements of 2,500 MW of generating capacity in New Jersey alone between 2003 and 2009. *See* Appendix 3 at 30, Table 3.1.4-1. The generation owners responsible

for these retirements generally have claimed that the retirements are due to the current excess of generation in PJM (which is located mostly in the western region of PJM), and the inability of these particular units to compete economically. More than 45% of the generation retirements in Eastern PJM are capacity that is more than 40 years old. *See id.*

The FERC recently determined that PJM cannot compel owners of generation units proposed for retirement to keep their facilities in service and ruled that such retirements may take effect upon 90 days prior notice.²² This time period is designed to allow PJM to assess the reliability effects of proposed retirements, and to make compensation arrangements with the owners of units that PJM finds must be retained in service for reliability purposes until replacement transmission or generation capability is placed in service. Although PJM's system was found reliable in prior RTEPs, the announcements in 2004 and 2005 of significant retirements with little notice since has resulted in PJM identifying reliability criteria violations for 2005 and for each subsequent year in the most recent planning horizon, i.e., 2006, 2007, 2008, 2009 and 2010.

Given the number of generation retirements implemented or announced in the last two years, and their short notice, the significant network upgrades needed to resolve the resulting reliability criteria violations cannot be completed before the time periods for which the violations were identified. Consequently, in order to assure compliance with reliability criteria, PJM identified several retiring generators that, if retained in service temporarily, would resolve the most immediate reliability violations. The operators of these facilities agreed to remain in service beyond their proposed retirement dates, subject to compensation in accordance with PJM's FERC tariff.

The retention of these units in service, along with the completion of a number of transmission upgrades, has enabled the PJM system to remain in compliance with all relevant reliability criteria for the current planning period (June 1, 2005 through May 31, 2006). However, as explained above, PJM already knows that it faces reliability criteria violations for each of the next five years. Additional transmission upgrades therefore will be needed before each of the next four summer seasons to ensure continued compliance with reliability criteria. PJM also will need to retain in service for a number of years

²² *See PJM Interconnection, LLC*, 110 FERC ¶ 61,053, *order on reh'g*, 112 FERC ¶ 61,031 (2005).

beyond 2005 the retiring generators that have been identified as needed for reliability. How long these units must be kept in service will depend on the pace of transmission construction and the outcome of current 15-year RTEP studies, which are scheduled for completion in May 2006. PJM fully expects those studies to find more and increasingly significant reliability problems in New Jersey and elsewhere in Eastern PJM.

c. Expansion of the Delaware River Path Congestion Also Promises Substantial Economic Benefits.

Although less severe than on the Allegheny Mountain path, congestion also has been significant and also has been rising on the bulk transmission facilities in the Delaware River path. In 2005 alone, congestion on the principal facilities in the Delaware River path totaled approximately \$459 million, making the three-year total more than \$780 million, as reflected in the following table:

Congestion on the Delaware River Transmission Path 2003-2005 (\$ million)	2003	2004	2005
50045005 Interface	\$12	\$6	\$200
East Interface	\$68	\$44	\$87
Kammer Transformer	\$7	\$5	\$55
Central Interface	\$37	\$9	\$44
West Interface	\$3	\$11	\$40
Wylie Ridge Transformer	\$17	\$68	\$33
Total	\$144	\$143	\$459

Again, such congestion demonstrates the demand for west-to-east transfer capability on the Delaware River transmission path.²³ Also noteworthy is that these amounts include approximately \$200 million of congestion in the 12-month period after the Branchburg 500/230 kV transformers were derated in 2004. The dramatic effect of that derating on congestion highlights the very high degree of sensitivity of the capability of the Delaware River path to the outage of key infrastructure elements.

That the congestion on this path has been considerably less than on the Allegheny Mountain path should not be taken to indicate that the need for expanded transmission

²³ Although a certain amount of this congestion can be addressed through financial transmission rights, as load continues to grow, the amount of unhedged congestion continues to rise.

capability in the Delaware River path is less immediate. Congestion is lower on this path only because PJM cannot transfer the energy across the Allegheny Mountains to reach many of the Delaware River path interfaces. If the path's transfer capability from west of the Alleghenies was improved, limits on the more easterly Delaware River interfaces would be controlling with much greater frequency.

The growing demand for west to east transfer capability on this path is likewise reflected in higher average LMPs on the east side of the Delaware River path than on the west side, as shown below:

Average LMP Differentials Across the Proposed Delaware River Transmission Path²⁴		
Year	Average LMP Differential (\$/MWh)	
	Day-ahead	Real-time
2003	4.92	4.72
2004	4.75	17.69
2005	17.69	15.29

In general, the location of generation on which eastern markets rely is increasingly shifting to the west, due both to retirements of eastern units and the location of most new generation capacity in western areas, i.e., western Pennsylvania, West Virginia, southeastern Ohio and beyond. There is no question, therefore, that Eastern PJM's reliance on the Delaware River transmission path for imports of power from the west will increase as it increases its reliance on transmission capability to replace retired generation and to meet growth in demand. This trend also will inevitably worsen congestion on the bulk transmission facilities in both the Allegheny Mountain and Delaware River paths. Thus, higher LMPs in the eastern portions of PJM than in western areas will persist. In the continued absence of investments in major new bulk

transmission capacity, PJM must continue to utilize patchwork upgrades to existing transmission facilities to ensure the overall system remains functionally reliable, even if repeatedly in need of new upgrade “bandages,” badly congested and far less economically efficient than it could be. Accordingly, there is an immediate need for action by the Department to designate the Delaware River path as a NIETC. PJM discusses in more detail below how the Delaware River path conforms with the Department’s criteria for proposed NIETC designations.

2. Incremental Transmission Upgrades Are Becoming Insufficient.

Solutions to the reliability criteria violations described above have been, for the most part, accomplished with adding increments of transmission capability in the immediate area of the violation. In part as a result of generation retirements, PJM’s RTEP process recently has had to order unprecedented levels of baseline transmission upgrades to the system. Of the more than \$1 billion worth of upgrades in the most recent plan, almost 60% are baseline reliability upgrades. The aggregate cost of the transmission upgrades required to remedy reliability criteria violations in Eastern PJM is more than \$600 million just for 2005 through 2009. *See* Appendix 3 at 32, Fig. 3.1.6-1. Of these, approximately \$200 million in upgrades are needed to address reliability violations from the New Jersey retirements just for the years 2005 through 2007. A further \$460 million of transmission upgrades will be presented to the PJM Board for approval in April 2006 to resolve additional reliability criteria violations through 2010. The 15-year planning studies PJM expects to complete in May 2006 is certain to lead to still more expensive upgrades to resolve further reliability problems in New Jersey and elsewhere in Eastern PJM through 2021. Moreover, should one more large generating unit in New Jersey

²⁴ For purposes of calculating the LMP differences shown here, the Delaware River path is deemed to be a path from the Midwest to Eastern Pennsylvania, New Jersey and Delaware.

retire, not only would extensive local upgrades be needed to maintain load deliverability, but a costly, major new 500 kV circuit almost certainly would be required as well.²⁵

The RTEP also currently includes baseline transmission upgrades needed to address load criteria violations previously identified for the Baltimore-Washington area for 2008. In the Baltimore-Washington area, the addition of over 900 MVAR of capacitors are required over the next three years to maintain adequate voltages. In addition, a 500/230 kV transformer at Doubs substation will be replaced later this year with a higher rated transformer to provide additional transmission capability to support the Baltimore-Washington load. The cost of these upgrades is estimated at \$20 million. Should any additional generators in these areas announce their retirement, still more, costly transmission upgrades will be needed. Further, as previously noted, it has been PJM's experience that correction of repeated reliability violations on local facilities soon leads to the emergence of violations on bulk power facilities that serve the affected area.

The RTEP process thus documents in detail the bases for both of the high-voltage, interstate transmission paths that PJM proposes for designation as NIETC, as well as the immediacy of the need for action by the Department on both paths. Reliability criteria violations and congestion on both paths require prompt actions to develop incremental transmission capability to serve the major metropolitan areas and other load centers that depend on these paths for economical and reliable supplies of electricity. Designation of these paths as NIETC will indicate the national importance of ensuring reliable and least-cost service to the major eastern metropolitan areas in eastern PJM that rely upon the Allegheny Mountain and Delaware River transmission paths, will serve to focus stakeholders on the critical, immediate need to identify and develop viable bulk transmission options and, to the extent additional transmission capacity is added on those paths, will enhance the development of a national electric transmission grid.

However, the upgrades PJM has had to require through the RTEP have become progressively more complex and expensive, with longer and longer lead times needed for construction. Extension of some of the RMR contracts in New Jersey may become

²⁵ Though PJM has not been notified any such further retirements, it is mindful that the Oyster Creek nuclear generating plant in New Jersey is involved in a contested relicensing proceeding before the Nuclear Regulatory Commission.

essential to maintain reliability until some upgrades already planned are completed. In short, PJM is rapidly reaching the limit where short-term, incremental fixes will no longer be sufficient and substantial new transmission will have to be constructed to maintain reliable and economical service to all east coast markets. Because of the lead time associated with the kind of interstate, EHV transmission projects that the PJM region requires, planning for these facilities needs to start now. One of the primary drivers for extending the PJM planning horizon to 15 years was the recognition by PJM and its stakeholders that the need for major new transmission capability must be identified in time to get it constructed before reliability suffers.

4. Market Actions Underscore The Need For Immediate NIETC Designations For The Allegheny Mountain and Delaware River Paths.

PJM's RTEP studies are not, however, the only compelling evidence of the immediate need for NIETC designation for the Allegheny Mountain and Delaware River paths. Market participants also recognize the need for new investment on these paths. This is perhaps best reflected in the proposals of American Electric Power ("AEP") and Allegheny Power ("APS") to construct new, high-voltage transmission lines in portions of one or both of the transmission paths for which PJM advocates immediate NIETC designation.

AEP proposes a 765 kV transmission line across both proposed paths. AEP's proposed line is comprised of a an initial segment from Amos, West Virginia, to the Doubs substation in Maryland – in the Allegheny Mountain path – and a second segment from Doubs to the Deans substation in New Jersey – in the Delaware River path. APS proposes a new 500 kV transmission line from the Wylie Ridge area of western Pennsylvania, via Mt. Storm and Bedington, to the Doubs substation in Maryland, west of Washington and Baltimore, all with in the Allegheny Mountain path.

Though PJM otherwise takes no position on the specific merits of either AEP's or APS's proposals, it concurs with AEP and APS that there is an immediate need to commence development of the high-voltage interstate transmission infrastructure that eastern PJM load centers will require for reliable and economical electric service. Both projects have indicated that the prospect of designation of NIETC corridors is one factor

that led them to propose such large investments in new, bulk power transmission facilities. These proposals, as well as other projects which PJM expects will be announced, demonstrate recognition in the marketplace that there is substantial need for additional west-to-east transfer capability to transfer power into Eastern PJM and the Washington-Baltimore area. Such attention in the marketplace underscores the conclusion that early designation of the Allegheny Mountain and Delaware River paths as NIETCs is justified and appropriate.

C. The RTEP Process Provides a Solid Foundation For The Department's Designation Of The Proposed NIETCs.

In developing the RTEP, PJM annually performs a comprehensive load flow analysis, taking into account forecasted firm loads, firm imports from and exports to neighboring systems, existing generation and transmission assets, and anticipated new generation and transmission facilities, of the ability of the PJM grid to meet applicable NERC and regional reliability council (MAAC, ECAR, MAIN, or SERC) criteria, nuclear plant licensee requirements and PJM reliability standards.

PJM then analyzes the effects on the system of numerous other factors, including:

- NERC and regional reliability council reliability assessments;
- operational performance of system facilities;
- requests to interconnect new generation and merchant transmission facilities;
- transmission owners' plans to modify or expand their transmission facilities;
- interregional transmission development plans;
- expected generation retirements;
- load-serving entities' demand forecasts and related capacity requirements;
- distributed generation and self-generation developments;
- requests for new or increased, long-term firm transmission service; and
- market-based proposals and PJM-developed alternatives to resolve persistent and costly congestion.

Preparation of the RTEP also includes testing the adequacy of the transmission system to deliver energy and capacity resources to loads in all areas of the PJM region.

For this purpose, PJM tests load deliverability²⁶ for each relevant electric area within PJM. Specifically, PJM determines the amount of capacity that must be imported into an area during an emergency to ensure that such area can satisfy a transmission-related loss of load expectation of only one day in 25 years. This required emergency level of capacity imports is referred to as the capacity emergency transfer objective, or “CETO.” After PJM determines the required level of emergency capacity transfers into a zone (i.e., the CETO), it then determines the capability of the transmission system to transfer capacity into such zone under those emergency conditions, referred to as the capacity emergency transfer limit, or “CETL.” For the RTEP, PJM compares each area’s forecasted CETO with the forecasted CETL for that area. If the CETO exceeds the CETL for a given area, PJM will identify transmission upgrades necessary to increase the CETL and resolve the problem. The relevant electric areas tested in this fashion are determined functionally, based on the topology of the electric system and the location of transmission constraints. The areas addressed may include transmission-owner zones, aggregates of such zones, or sub-zones within such zones, i.e., wherever there are constraints that are likely to limit emergency transfers into an area of load.

Several factors affect the system’s ability to pass the CETO/CETL load deliverability test: (1) new generation installed in a zone, which reduces the need to import energy using the transmission system; (2) retirements of existing generation in a zone, which increases the need to import energy using the transmission system; and (3) load growth, which, in the absence of new generation, increases the need to import energy using the transmission system.

PJM’s RTEP process is collaborative from start to finish. The PJM Transmission Expansion Advisory Committee and other stakeholder forums and processes provide opportunities for stakeholders to review PJM’s planning analyses and offer input (including proposed projects) to help PJM improve the grid, ensuring reliability and access to robust, competitive markets for all market participants. PJM’s governing

²⁶ Load deliverability refers to the system’s capability to deliver energy from the aggregate of all capacity resources to an electrical area experiencing a capacity deficiency. The load deliverability test employs probabilistic techniques and a loss of load expectation (“LOLE”) standard. In PJM, the LOLE is one day in 25 years.

committees, such as the PJM Members Committee and the Planning Committee, provide additional opportunities for stakeholders to provide input to the regional planning process. In addition, *ad hoc* stakeholder groups are periodically commissioned to address specific issues. Recent groups have developed planning modules and tariff changes relating to matters such as PJM's economic planning process and FERC's rules standardizing generation interconnection procedures and agreements. PJM also engages in planning activities that address issues of mutual concern to PJM and neighboring transmission systems. PJM participates in such super-regional coordination of planning with the Midwest ISO through a Joint Operating Agreement, with ISO New England and the New York Independent System Operator through the Northeastern ISO/RTO Planning Coordination Protocol, and with the Tennessee Valley Authority through a Joint Coordination Agreement.

III. The Allegheny Mountain and Delaware River Paths Meet The Department's Proposed Criteria For Designation Of NIETC.

PJM has joined in the IRC's comments on the Department's eight proposed criteria for evaluating transmission corridors proposed for NIETC designation. PJM thus generally supports the Department's proposed framework for carrying out its mandate to designate national interest corridors. Accordingly, PJM has evaluated the consistency of its proposed NIETC with that framework. As explained in the following discussion, both the Allegheny Mountain and the Delaware transmission paths fully satisfy the Department's proposed criteria for designation as NIETCs.

A. Draft Criterion 1: Action is needed to maintain high reliability.

1. Allegheny Mountain Path.

The importance of importing power from the west to replace local generation capacity is particularly acute on this path. Recent RTEP analyses have demonstrated violations of reliability criteria on three major facilities in the Allegheny Mountain path; overloading of the Mt. Storm-Doubs 500 kV transmission line, violation of the

Bedington-Black Oak 500 kV voltage limit and overload of the Doubs-Dickerson 230 kV circuit. In addition, the RTEP has identified a need for over 1300 MVAR of capacitors on the PEPCO and BG&E systems, at an estimated cost of \$17.5 million, to maintain reliability of service. PJM expects to find additional reliability violations in the ongoing 15-year planning studies that will be completed in May 2006.

The effects of these violations are exacerbated by the potential permanent shutdown of the Potomac River generating plant in Alexandria, Virginia. The Department is familiar with the reliability consequences of this event for the Washington-Baltimore metropolitan area.²⁷ Although the Department has ordered the owner of the Potomac River plant to keep it operational and to generate power under certain conditions through at least October 1, 2006, environmental pressures may still require the plant to shut down permanently after PEPCO completes installation of two new 230 kV transmission circuits.

PEPCO's addition of two new 230 kV circuits (construction of which is now underway) will ensure compliance, in the vicinity of the Potomac River substation, with applicable reliability criteria in the event the Potomac River plant is permanently shut down. Nevertheless, upon completion of the new circuits and shutdown of the generating plant, the reliability of service to the region in general will depend even more than it does today on imports of power from western sources over the Allegheny Mountain transmission path. Shutting down Potomac River of itself imposes additional contingency loading on the Bedington-Black Oak and Mt. Storm-Doubs 500 kV transmission lines,²⁸ exacerbating the constraints already experienced on those lines. Local pressures have led

²⁷ See *Mirant Potomac River Order*.

²⁸ See PJM/PEPCO Joint Response to FERC Staff Data Request, response no. 1.e., FERC Docket No. EL05-145-000 (Aug. 26, 2005) ("August 26 Responses to FERC") (CEII document (non-internet public)).

the D.C. Public Service Commission to study the consequences of shutting down at least one other local generating facility, the Benning plant.²⁹

Essentially, these events would have the effect of shifting to the already-congested high voltage transmission facilities on the Allegheny Mountain path, to the Bedington-Black Oak line in particular, the load that the local generating plants historically have supplied, particularly at times of peak demand (Benning and Potomac River together have nearly 1000 MW of generating capacity). Therefore, designation of the Allegheny Mountain path as a NIETC is indeed needed to maintain reliable service in the immediate future for the Washington-Baltimore metropolitan area. Even if all local generation continues to operate, continued load growth and the lack of any new generating sources will require that more and more power be imported from western resources. It is unlikely that the incremental transmission upgrades currently planned will accommodate all of the necessary imports. Therefore, new, large-capacity transmission facilities will likely be required. Because of the long lead time needed to construct such facilities, planning for them needs to begin now. The Department can assist in that planning by acting immediately to designate the Allegheny Mountain transmission path as a NIETC.

2. Delaware River Path.

PJM previously noted that its RTEP studies have identified violations of PJM's Generator and Load Deliverability criteria on the PJM transmission system in New Jersey in each planning year of the period 2005 through 2010. These violations are primarily due to retirements of significant local generation capacity, combined with a lack of replacement generation and continuing load growth. The constraints on the affected facilities that the RTEP modeling studies found generally are (n-1) contingency voltage constraints and result from large power transfers into eastern PJM load centers. PJM has identified extensive system upgrades needed in New Jersey to maintain compliance with

²⁹ "Reliability Evaluation For The Potential Retirement Of Benning Generation," available at <http://www.pjm.com/planning/project-queues/gen-retirements/20050610-reliability-benning-gen-retire2.pdf> (last visited Mar. 6, 2006).

reliability criteria. *See* Appendix 3 at 31, 33-34, Map 3.1.6-1, Table 3.1.6-1. However, because the planned retirements of generation outpace the ability to construct the needed transmission upgrades, PJM has had to enter into “reliability must-run” agreements with the owners of the oil-fired Hudson and Sewaren plants in New Jersey to keep approximately 835 MW of capacity at those locations in service through at least the summer of 2008. As noted, the lead time needed to build the increasingly complex and expensive transmission upgrades needed to maintain reliability after these plants retire may require PJM to seek extensions of some or all of these contracts, thus extending the costs of the RMR arrangements for New Jersey electric consumers.

The risk of more retirements is very real. Nearly 90,000 MW of the approximately 164,000 MW of existing generating capacity in PJM are from fossil steam generating units. More than 75% of that capacity is from units that are at least 30 years old; more than 20% is from units that are 50 or more years old. New limits on mercury emissions from coal-fired power plants now under consideration in Pennsylvania, New Jersey and Maryland, among other states, may prove to be an important factor in potential future retirements. PJM has been closely monitoring the states’ deliberations on these requirements; its analyses indicate that, should the current proposed requirements be adopted, as much as 4,000 MW of older, coal-fired generation capacity potentially could be retired because the investment needed at such units to meet the new emission limits would be deemed uneconomic.

RMR contracts and RTEP-required transmission upgrades that will provide import capacity sufficient to replace retired generation will ensure year-to-year compliance with minimum reliability criteria, but they are no more than temporary solutions. As load in Eastern PJM continues to grow and there continues to be insufficient new local generation installed to make up for the retired capacity (much less to keep up with demand growth), the dependence of New Jersey and other Eastern PJM load centers on bulk power transfers from western generation will continually increase. The commencement in 2007 of exports of up to 1,090 MW of power from PJM to New York City via two merchant transmission facilities with terminals in New Jersey that are

now under construction³⁰ will further compound the effects of the large net loss of local generation via retirements and the concomitant need for increased imports from western generation sources – and two more merchant transmission projects in PJM’s interconnection queue could result in withdrawals of up to another 1,190 MW for export. Accordingly, transfer capability through the Delaware River transmission path will become even more important than it is today to maintaining reliable service to Eastern PJM – and New York City -- consumers. Immediate designation of this path as a NIETC is clearly warranted.

III. *Draft Criterion 2: Action is needed to achieve economic benefits for consumers.*

1. Allegheny Mountain Path.

Although it does not authorize any particular project or activities, designation of a transmission path as a NIETC should facilitate expansion of transmission capability within that path, provided that required regulatory and environmental approvals can be obtained. Accordingly, designation of the Allegheny Mountain path may have a role in leading to the development of additional capacity on the interstate, high voltage transmission grid for bulk transfers of power to the markets of Washington and Baltimore and surrounding areas. There can be little doubt that expanding transmission capacity on this path would achieve economic benefits for consumers.

Increased transmission capability would reduce the costly congestion (approximately \$862 million in 2005 alone) on the Allegheny Mountain path that PJM described above. The most frequently congested facility in all of PJM over the past several years has been the Bedington-Black Oak 500 kV line across the West Virginia panhandle, with 1,044 constrained hours in 2002, 815 hours in 2003 and 1,131 hours in

³⁰ These are (1) a D.C. transmission line from Sayreville, New Jersey, to Long Island, owned by Neptune Regional Transmission System, L.L.C., with capacity and associated rights to firm withdrawals from PJM of up to 790 MW, and (2) a variable frequency transformer in Linden, New Jersey, owned by East Coast Power, L.L.C., with capacity and associated rights to firm withdrawals from PJM of up to 300 MW. *See* Merchant Transmission Interconnection – Queue G available at <http://www.pjm.com/planning/project-queues/merch-queue-g.jsp> (last visited Mar. 6, 2006).

2004. The PJM Market Monitoring Unit (“MMU”) summarized the economic impact of this congestion in 2004 in its State of the Market Report for the same year:

Bedington - Black Oak (AP). In 2004, the Bedington – Black Oak 500 kV line was constrained for 1,131 hours, with 54 percent of congestion occurring during on-peak periods. . . . The location and size of this line contributed to its substantial impact on the entire PJM system, with an average affected load of 39,170 MW. On average, this constraint caused a 20 percent increase in LMP during constrained hours. The affected load had an average LMP of \$60, with \$12 attributable to congestion from the Bedington – Black Oak line.³¹

Increased capability on the Allegheny Mountain path also may increase competition among suppliers of power in that path. The MMU periodically analyzes market concentration and market shares on various PJM facilities to assess whether generators in those areas should be exempt from offer-capping when transmission facilities are constrained. In an October 2004 report to FERC, the MMU reported finding that several facilities in the Allegheny Mountain transmission path should not be so exempted from offer capping because of high market concentration (as measured by the Hirschman-Herfindahl Index (“HHI”)) and high maximum market shares among suppliers. Specifically, the MMU determined the following HHIs and market shares for the indicated facilities:³²

<u>Facility Name</u>	<u>HHI</u>	<u>Maximum Market Share</u>
Kammer Transformer	2070	34.6%
Wylie Ridge Transformer	2638	44.7%
Mt. Storm Doubs	2053	35.5%
Black Oak Bedington	2083	29.5%

³¹ 2004 State of the Market Report, PJM Market Monitoring Unit, at 59 (2005), available at <http://www.pjm.com/markets/market-monitor/downloads/mmu-reports/pjm-som-2004.pdf>.

³² See *PJM Interconnection, L.L.C.*, “Report of the PJM Market Monitor Regarding Offer Capping of Major Transmission Constraints,” FERC Docket Nos. ER04-539-001 *et al.*, at 8 (Oct. 26, 2004).

Increasing the transfer capability in the Allegheny Mountain path would reduce constrained hours of operation, making more suppliers available to buyers during more hours. Competition among suppliers would be enhanced, reducing or perhaps even eliminating the need for offer-capping on some or all of these facilities. In other words, the market should operate more efficiently and power prices should be lower, particularly during peak demand periods.

PJM has modeled the effects on PJM markets of two potential means of increasing transfer capability in the Allegheny Mountain transmission path. PJM's analysis examined the potential energy production cost savings of (1) adding a 350 MVAR SVC at the Black Oak substation, increasing the transfer capability on the Bedington-Black Oak line by approximately 230 MW, and (2) adding a new 500 kV transmission line from the Fort Martin substation on the Pennsylvania-West Virginia border, through Bedington, to the Hunterstown substation in south-central Pennsylvania, approximately 250 miles to the east. As shown in Appendix 6, PJM's one-year simulations for each expansion scenario indicated that the SVC at Black Oak could yield reductions in payments by loads of approximately \$80 million, while the new 500 kV transmission circuit roughly paralleling the Bedington-Black Oak line could yield reductions in payments by loads of over \$100 million. *See Appendix 6.*³³ This analysis dramatically reinforces the conclusion that incremental transmission capacity on the Allegheny Mountain path almost certainly would have significant economic benefits for

³³ While this sample calculation was intended to merely show the type of information that market simulation analysis can provide, it dramatically reinforces the conclusion that incremental transmission capacity on the Allegheny Mountain path almost certainly would have significant economic benefits for consumers in the affected PJM load centers. This path, therefore, is fully consistent with the Department's draft criterion #3 for NIETC designation.

consumers in the affected PJM load centers. This path, therefore, is fully consistent with the Department's draft criterion #2 for NIETC designation.

2. Delaware River Path.

Expanding transmission capacity in the Delaware River path likewise would benefit consumers in the affected market areas by facilitating their access to more diverse, primarily coal and wind-powered generation sources in western PJM. This access will become more and more important to these markets because of the ongoing "migration" of economical generation capacity to the western portions of the PJM region.

PJM earlier detailed the numerous, recent and impending retirements of generation capacity in Eastern PJM, totaling nearly 3,000 MW, more than 85% of it in New Jersey. *See* Appendix 3 at 19, Table 2.3.1-1. Concurrently, the amount of new generation capacity proposed for interconnection with the PJM transmission system in New Jersey has decreased substantially. Appendix 7 illustrates this trend. In 1999-2000, PJM's interconnection queues included more than 12,000 MW of generating capability with proposed locations in New Jersey – more than 20% of all proposed new generation capacity in PJM. In contrast, in 2003-04, only about 1,700 MW of new capacity was proposed to be located in New Jersey – less than 10% of all proposed new capacity. Equally important here, more than half of the proposed new generation capacity in PJM's Queues M, N and O is located in the western PJM (Allegheny Power, AEP, Duquesne Light, Dayton Power & Light and Commonwealth Edison). As of January 31, 2006, more than two-thirds of all new generating capacity then pending in PJM's interconnection queue was proposed to be located in the PJM West region – a total of approximately 17,000 MW in the west versus about 6,800 MW in the Mid-Atlantic area and about 1,800 MW in PJM South.

The recent retirements of generation and slow development of replacement capacity already have combined to compel PJM to negotiate RMR contracts with the

owners of five New Jersey units that were slated for retirement.³⁴ By definition, these units must run to maintain reliable service when less costly sources of power are unavailable because of insufficient power import capability on the Delaware River transmission path, the interstate transmission grid that supplies New Jersey. Incremental interstate transfer capability (or the development of economical, new local generation) would eliminate the need for these RMR contracts and thus should mean lower costs for consumers in New Jersey and elsewhere in Eastern PJM. Accordingly, designation of the Delaware River path as a NIETC is consistent with the Department's draft criterion #2.

- C. *Draft Criterion 3: Actions are needed to ease electricity supply limitations in end markets served by a corridor, and diversify sources.*
Draft Criterion 4: Targeted actions in the area would enhance the energy independence of the United States.

Both of the NIETCs that PJM proposes conform with these criteria due to the same factors. To the extent that it may ensure the development of additional transmission capability, NIETC designation for these paths will alleviate current and potential future supply restrictions, will diversify sources of power available to the affected markets and will reduce the relative dependence of those markets on natural gas- and oil-fired generation.

Limitations on current power supplies in Baltimore-Washington and Eastern PJM currently are transmission limits that restrict imports of power from western sources, as demonstrated by the persistent congestion on the high voltage, interstate transmission facilities on both paths. The potential shut-down of the Potomac River plant near Washington would create an immediate need for replacement power, which most likely would need to be imported from western sources. The longer-term trends of steady load growth and failure to replace retiring generation capacity that PJM has previously explained likewise will require additional transfer capability from the west to ensure sufficient supplies of power in both market areas, but are particularly acute in New Jersey, where the pace of retirements and relatively high rates of demand growth already

³⁴ The RMR contracts are for (a) four units at the Sewaren plant, for a total of 453 MW, for a term extending through 2008, and (b) for one unit at the Hudson plant, for 383 MW, with a term extending through 2007.

have compelled PJM to enter into RMR contracts with units that otherwise would have been retired, at an estimated cost to consumers of about \$50 million per year in 2006-07. As previously noted, the effects of these trends are compounded in Eastern PJM by two merchant transmission projects' commencement of exports of up to 1,090 MW to New York in 2007.

Designation of these corridors further would improve the diversity of the generation mix available to both the Washington-Baltimore area and Eastern PJM. Local generation serving the load centers on these paths includes relatively more oil-fired generation capacity than in the western areas where competing wholesale supplies generally are more economical. For example, oil-fired generation comprises approximately 28.6% of all installed capacity in Maryland and the District of Columbia. *See* Appendix 3 at 109, Fig. 4.5.1-1. Oil-fired capacity comprises about 23.4% of the installed generation fleet in the Delmarva Peninsula. *Id.* at 86, Fig. 4.1.1-1. Approximately 15.8% of New Jersey's installed capacity is oil-fired and only about 12.7% of its capacity is coal-fired. *Id.* at 122, Fig. 4.7.1-2.

The new generation installed since 1999 and currently pending in PJM's interconnection queues in these areas does not depend on oil, but neither does it significantly enhance fuel diversity – it is overwhelmingly fueled by natural gas. In Maryland and D.C., natural gas is the fuel for more than 82% of the capacity of recently installed and currently proposed generation. *Id.* at 110, Fig. 4.5.1-2. In the Delmarva Peninsula, 97% of the newly installed and currently proposed generation capacity is fueled by natural gas. *Id.* at 88, Table 4.1.2-1. In New Jersey, natural gas is the fuel for 93% of all newly installed and currently proposed generation capacity. *Id.* at 124, Fig. 4.7.2-1. Such heavy reliance on one fuel potentially exposes consumers in these areas to significant costs when natural gas commodity prices spike, as they did during 2005, particularly in the wake of Hurricanes Katrina and Rita.

Enabling greater imports of power from the west would substantially increase the diversity of generation available to eastern and southwestern PJM markets. In contrast to the amounts in New Jersey and elsewhere in the east, the overall capacity fuel mix in PJM includes 41% coal and just 7.2% oil. *See id.* at 60, Fig. 3.5.2-1. Of greater significance, coal-fired generation is the source of 2/3 of all energy output by PJM

generators. *Id.* at 17, Fig. 2.1.3-2. More than 6,700 MW of additional coal-fired generation is currently under construction or active in PJM's interconnection queue. All of this capacity is or will be located far from eastern PJM load centers.³⁵

Moreover, approximately 9,300 MW of additional wind-powered generation is either under construction or pending in PJM's interconnection queue. *See* Appendix 3 at 65.³⁶ With the exception of one plant under construction on the New Jersey coast, all of these facilities are or will be located west of the load centers involved in this discussion. *See* Appendix 9..³⁷

Increased transmission capability on either or both of the transmission paths that PJM proposes for NIETC designation would increase the diversity of generation sources available to the affected markets. Both paths would enable coal and wind-powered generation from western portions of PJM to serve loads in all of these eastern markets, where retirements, emissions limits and land use restrictions significantly limit options for keeping up with load growth and the generation that does get built is, by far, predominantly gas-fired. Further, in both instances, additional transfers of power from the west would reduce the affected areas' relative dependence on oil-fired generating capacity and thus would contribute to reducing the need for oil imports. Accordingly, both the Allegheny Mountain path and the Delaware River path are consistent with the Department's draft criteria 3 and 4 for NIETCs.

³⁵ This coal-fired capacity consists of plants that are pending in or which have completed studies through PJM's generation interconnection queue and under construction or proposed to be sited in western Maryland, western Pennsylvania, West Virginia, eastern Kentucky, or Ohio.

³⁶ Other portions of the RTEP (Appendix 3) refer to lesser amounts of wind-powered capacity in PJM's queue. *See id.* at 61. Those amounts reflect only the portion of total wind energy production capacity that qualifies as Capacity Resources in PJM's markets; most wind-powered generating facilities in PJM operate in large measure, and many in whole, as Energy Resources.

³⁷ Wind generation's intermittent fluctuations of output is perceived as one of its principal limitations as a reliable source of energy. More robust transmission capability could alleviate that concern by providing sufficient capacity within the transmission system to "absorb" variations in wind generators' energy production without adversely affecting reliability of service.

D. *Draft Criterion 5: Targeted actions in the area would further national energy policy.*

For the reasons explained in the comments of the IRC on this draft criterion, PJM views this criterion as complementary, rather than additional, to the others proposed by the Department in the NOI. That is, any action the Department takes that is consistent with its other proposed criteria (particularly criteria 1 and 2) will be consistent with this criterion also. The National Energy Policy's emphasis on relieving transmission bottlenecks indicates that the Department should be proactive in designating NIETC in furtherance of creating a national electric transmission grid.³⁸ Greater transmission capacity on both of the transmission paths that PJM advocates for designation would better integrate existing and planned generation in western areas of PJM with the eastern and southwestern PJM markets. The proposed designations thus would increase the efficiency of PJM markets, as well as serve the goal of enhancing the national transmission grid. *See* Appendix 6.

Other key aspects of national energy policy are also served by this designation. There are a variety of generation projects utilizing advanced coal technology under consideration in the Midwest. There also is considerable wind generation slated for development either along the Allegheny Mountains or the west. Both of these new sources of generation are enhanced transmission links to markets in the east. Added transmission capacity in the Allegheny Mountain and Delaware River paths also would reduce the need to site new generation facilities in and around the major urban centers of Eastern PJM. Essentially all of the principal metropolitan load centers served from the Allegheny Mountain and Delaware River paths are designated as non-attainment areas with respect to one or more air quality standards. This factor compounds the problems of developing new generation capacity that are presented by the classic load pocket characteristics of areas such as the Delmarva Peninsula and New Jersey, where there are no significant, indigenous fuel supplies and the surrounding rivers, bays and other waters,

³⁸ *National Energy Policy – Report of the National Energy Policy Development Group*, at 1-5, 7-7 – 7-8 (U.S. GPO May 2001) available at <http://www.whitehouse.gov/energy/National-Energy-Policy.pdf>.

as well as (in New Jersey's case) dense urban development, limit the number of potentially viable sites for new plants and make fuel transportation expensive and logistically difficult.

The development of additional transmission capability in the Allegheny Mountain and Delaware River paths thus would enhance development of the national electric transmission grid and would facilitate compliance with environmental requirements in the several major metropolitan areas that are served through these paths. Accordingly, both proposed paths are consistent with the Department's draft criterion 5.

- E.** *Draft Criterion 6: Targeted actions in the area are needed to enhance the reliability of electricity supplies to critical loads and facilities and reduce vulnerability of such critical loads or the electricity infrastructure to natural disasters or malicious acts.*

This criterion appears broader than draft criterion #1 in that this item appears to encompass particular areas where applicable NERC or other reliability criteria have not actually been violated, but there is nevertheless a need to ensure or enhance reliability of service. Loads in and around major, urban load centers and military or other facilities deemed critical to homeland security/national defense should be treated as critical load within scope of this criterion. This approach is consistent with the Department's recent finding that load in Washington, D.C., that would be at risk in the event of an unplanned transmission outage while the Potomac River generating plant was shut down constitutes "critically important facilities and operations."³⁹

The trends in load growth, generation retirements and lagging development of new generating capacity in Eastern PJM and in the Baltimore-Washington area that PJM described above underscore the importance of ensuring that there is a robust transmission system capable of supplying the needs of such critical loads. Increasing transfer capability across the Allegheny Mountain path would offer that assurance to the critical loads in and around Washington and Baltimore. Likewise, incremental capacity in the Delaware River path would enhance reliability to the predominantly urban markets of Eastern PJM, particularly those in New Jersey, for the reasons PJM previously has

³⁹ *Mirant Potomac River Order* at 8.

described. Exports of energy to New York City and points north using the currently planned merchant transmission and other potential facilities previously described also require additional capability to remain feasible in the future.

Both of PJM's proposed NIETC would encourage the development of a more robust grid that would be better able to withstand damage from natural or malicious acts to key generation or transmission facilities in the eastern United States. The combined populations of the major urban centers from Washington to New York City total about 16 million. This is critically important load that includes countless health care, public safety, national security and other governmental functions and facilities. Both the Allegheny Mountain and Delaware River paths thus would enhance the reliability of service to all of this critical load and, therefore, both satisfy the Department's draft criterion 6.

- F.** *Draft Criterion 7: The area's projected need (or needs) is not unduly contingent on uncertainties associated with analytic assumptions, e.g., assumptions about future prices for generation fuels, demand growth in load centers, the location of new generation facilities, or the cost of new generation technologies.*

PJM agrees that the Department must reasonably satisfy itself whether the claims made in support of designating a particular corridor as a NIETC fall within a zone of reasonableness. As the IRC's comments emphasize, this is where independent, ISO/RTO regional planning processes and assessments are of greatest value to the Department. PJM's proposals here are based on extensive data and analysis gathered in actual operations or prepared in PJM's RTEP process. All such material, therefore, is transparent and has been available for scrutiny by all market participants and regulatory commissions. All of the congestion and other market data PJM presents here are fully documented, as are the trends of eastern load centers' increasing reliance on west to east power flows due to growing locational divergence between generation and load. Further, because all of PJM's analysis has been a part of its RTEP process, its assumptions and conclusions have been developed independently, have been tested through stakeholder review, and have been approved by PJM's independent board of managers. PJM has explained the nature and scope of the RTEP process in considerable detail, and will not burden the Department with repetition of that discussion. As that material demonstrates,

the Department can have a high degree of confidence in the validity of PJM's data and in the merit of its conclusions. Therefore, the Department should find that both the Delaware River path and the Allegheny Mountain path have been developed and supported in a manner that conforms with the Department's draft criterion 7.

G. *Draft Criterion 8: The alternative means of mitigating the need in question have been addressed sufficiently.*

The IRC asserts in its comments on the NOI that, at least when the Department is addressing a proposed corridor designation within an RTO/ISO region, this draft criterion should require only that the Department satisfy itself that RTO/ISO planning protocol ensures that potential market-based alternative solutions to congestion, economic and reliability issues will have ample opportunity to present themselves and, to the extent feasible and justified, to displace the need for additional transmission facilities. PJM unequivocally agrees. Consideration of specific alternative solutions is a matter that can and should be addressed in the context of particular transmission issues and, more importantly, only with respect to specific, proposed transmission solutions. Therefore, detailed evaluation of alternatives must be left to regional planning processes and to state and (if applicable) federal siting procedures.

PJM's RTEP clearly meets the appropriate standard under this criterion for designation of NIETC. PJM makes information on pricing and other relevant factors transparently available to all market participants and potential new entrants. The RTEP process evaluates reliability, operational performance and economic factors and openly elicits, accommodates and integrates all market-based solutions to all planning issues -- new generation of all types and sizes, A.C. and D.C merchant transmission, and demand response programs. The proposed Allegheny Mountain and Delaware River transmission paths are products of this process.

The PJM planning process builds in a specified "market window" where market-based generation or demand side solutions are able to come forward prior to a transmission solution being chosen. In these corridors, although there have been certain small projects proposed, no market solutions (either individually or collectively) have arisen to resolve the problems of the magnitude cited herein. The Department should

recognize the importance of the emergence, after numerous RTEP market windows failed to elicit generation, market response, or other solutions to the identified constraints in the Allegheny Mountain and Delaware River transmission paths, of two proposed new EHV transmission lines (the AEP and APS proposals) that would be located in one or both of the NIETCs that PJM advocates. These proposals undeniably reflect willingness of some market participants to invest capital in transmission solutions to resolve the issues cited herein and a willingness of the capital markets to fund such projects. In short, the operation of the PJM market as well as the planning process and the lack of response to “market windows” all should serve to satisfy the Department that both of PJM’s proposed NIETCs are consistent with draft criterion 8.

A finding of compatability with criterion 8 does not rule out the development of alternative solutions. It is for this reason that PJM is not seeking DOE designation of a particular line or particular facilities. PJM will continue to evaluate alternatives to transmission and utilize its robust competitive market to incent the development of such solutions. Nevertheless, based on the history and magnitude of the issues, the Department should find that PJM’s proposal meets criterion eight. PJM has provided (and will continue to provide) open processes for development of market-based generation and demand response capability to resolve economic and reliability issues that also may be resolvable through transmission. The transparent RTEP process, as well as state siting proceedings and ultimately FERC siting proceedings, if necessary, are available to review the reasonableness of PJM’s findings regarding any specific transmission proposal weighed against its alternatives. The Department should avoid a NIETC designation turning into an integrated resource planning or becoming duplicative of state siting process.

H. Possible Additional Criteria.

1. The Department Should Consider The Presence of Proposed Transmission Projects An Affirmation Of The Need For And Value of NIETC Designation.

The NOI solicits interested parties’ suggestions of criteria additional to those proposed in the NOI that the Department should consider in evaluating a proposed NIETC. PJM contends the Department also should use as a criterion whether market

participants have made specific, serious proposals to add transmission capacity in the transmission path for which NIETC status is requested. Such proposals are independent, objective evaluations from those willing to commit capital of the extent of need for additional transmission capability on the relevant path and of the perceived viability of investing in new transmission facilities to meet that need. The Department should give considerable weight to this factor, since it effectively filters out much of the “noise” of forecasts, assumptions and hypothetical projects on which many proposed designations may be based.

Application of this criterion further supports PJM’s request for immediate designation of the Allegheny Mountain and Delaware River transmission paths as NIETC. As noted previously, two significant new long-distance transmission lines, both proposed by large, established transmission companies, have been proposed in recent weeks. Both would be built on routes that traverse the Allegheny Mountain path and/or the Delaware River path.

2. Should The Department Employ Criteria Additional Or Different From Those Proposed In The NOI, Proponents Of Corridor Designations Should Have An Opportunity To Demonstrate Their Proposals’ Conformance With Those Criteria.

The NOI solicits suggestions of additional criteria that the Department may apply in determining whether to designate NIETC. In the event the Department ultimately decides, either on its own motion or at the suggestion of other commenters, to apply additional or different criteria in reaching designation decisions, PJM requests an opportunity to address whether and how the Allegheny Mountain and Delaware River transmission paths meet those standards.

CONCLUSION

For the reasons stated above, PJM requests that the Department, concurrent with its initial congestion study under section 1221 of the Act, designate as NIETC the Allegheny Mountain transmission path and the Delaware River transmission path, both as defined herein.

Respectfully submitted,



Craig Glazer
Vice President-Federal Government Policy
PJM Interconnection, L.L.C.
1200 G Street, N.W.
Suite 600
Washington, D.C. 20005
(202) 393-7756 (phone)
(202) 393-7741 (fax)
glazec@pjm.com

Vincent P. Duane
Deputy General Counsel
PJM Interconnection, L.L.C.
955 Jefferson Avenue
Norristown, PA 19403
(610) 666-4367 (phone)
(610) 666-4281 (fax)
duanev@pjm.com

Barry S. Spector
Michael J. Thompson
Carrie L. Bumgarner
Wright & Talisman, P.C.
1200 G Street, N.W.
Suite 600
Washington, D.C. 20005
(202) 393-1200 (phone)
(202) 393-1240 (fax)
spector@wrightlaw.com
thompson@wrightlaw.com
bumgarner@wrightlaw.com

**Attorneys for
PJM Interconnection, L.L.C.**

March 6, 2006

LIST OF APPENDIXES

APPENDIX 1: Transmission Grid Map

APPENDIX 2: Pfirman Presentation Graph

APPENDIX 3: Regional Transmission Expansion Planning Documents

APPENDIX 4: Raw LMP Data Spreadsheet

APPENDIX 5: Attachment 2 to Herling RPM Affidavit

APPENDIX 6: Regional Planning Process Working Group Presentation

**APPENDIX 7: System Planning Slides - Comparing A/B/C Queue Locations with
M/N/O Queue Locations**

APPENDIX 8: Mountaineer Working Group Presentation (Intentionally omitted)

APPENDIX 9: System Planning Slides - Wind Projects by Status